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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/016,002	01/30/1998	DAVID S. LAMPERT	7117-89	6408
7590	05/26/2006		EXAMINER [REDACTED]	COLBERT, ELLA
NAVIGATION TECHNOLOGIES CORPORATION 222 MERCHANDISE MART PLAZA SUITE 900 CHICAGO, IL 60654			ART UNIT [REDACTED]	PAPER NUMBER 3624

DATE MAILED: 05/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/016,002	LAMPERT ET AL	
	Examiner Ella Colbert	Art Unit 3624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 16 March 2006.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 2-10,13-15,17,19,20,23-26,28 and 29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 2-10,17,19,23,26 and 28 is/are allowed.
- 6) Claim(s) 24, 25, 13-15, 20, and 29 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

## **DETAILED ACTION**

1. Claims 2-10, 13-15, 17, 19, 20, 23-26, 28 and 29 are pending. Claims 19, 20, 24, 25, 28, and 29 have been amended and claim 27 has been cancelled in this communication filed 03/13/06 entered as Response After Non-Final Action.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over (US 6,282,489) Bellesfield et al, hereafter Bellesfield and US 5,754,846) Janse et al, hereafter Janse in view of (US 5,694,534) White, Jr. et al, hereafter White, Jr.

With respect to claim 24, Bellesfield teaches, A computer-implemented method of using a geographic database comprising the steps of: accepting specification of a search area in a geographic region represented by the geographic database (col. 3, line 52-col. 4, line 10); identifying a parcel of data in the geographic database, wherein the parcel contains data entities that represent geographic features encompassed within a first rectangular area located within the geographic region, wherein the first rectangular area intersects said search area (col. 5, lines 10-36); and whereby the data entities that represent the geographic features located within the search area are determined (col. 7, lines 13-40).

Bellesfield failed to teach, wherein an improvement comprises: using a first index associated with the parcel to identify which of a plurality of rectangular sub-areas into which the first rectangular area is divided intersect the search area; and using a second index associated with the parcel to identify the data entities contained in the parcel that intersect each of the plurality of rectangular sub-areas identified as intersecting the search area. Janse teaches, using a first index associated with the parcel to identify which of a plurality of rectangular sub-areas into which the first rectangular area is divided intersect the search area (col. 4, lines 53-67); and using a second index associated with the parcel to identify the data entities contained in the parcel that intersect each of the plurality of rectangular sub-areas identified as intersecting the search area (col. 6, lines 57-67 and col. 8, lines 52-67). Bellesfield and Janse failed to teach, such that in the case that the search area intersects more than one of said plurality of rectangular sub-areas and a geographic feature represented by a single data entity intersects each of said more than one of said plurality of rectangular sub-areas, the second index identifies said single data entity. White, Jr. teaches, such that in the case that the search area intersects more than one of said plurality of rectangular sub-areas and a geographic feature represented by a single data entity intersects each of said more than one of said plurality of rectangular sub-areas, the second index identifies said single data entity (col. 6, lines 55-62, col. 7, lines 44-52, col. 8, lines 19-60, col. 16, lines 12-27, Fig. 3, and Fig 4A-1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a first index associated with the parcel to identify which of a plurality of rectangular sub-areas into which the first

rectangular area is divided intersect the search area; using a second index associated with the parcel to identify the data entities contained in the parcel that intersect each of the plurality of rectangular sub-areas identified as intersecting the search area; and such that in the case that the search area intersects more than one of said plurality of rectangular sub-areas and a geographic feature represented by a single data entity intersects each of said more than one of said plurality of rectangular sub-areas, the second index identifies said single data entity and to incorporate in Bellesfield because such an incorporation would allow Bellesfield to have the capability to have the parcels divided and one or more parcels at the time with each parcel corresponding to a rectangular section of a road network with a pointer (index) to the cell in the neighboring section.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over (US 5,754,846) Janse et al, hereafter Janse and (US 5,694,534) White, Jr. et al, hereafter White, Jr. in view of (US 6,282,498) Bellesfield et al, hereafter Bellesfield.

With respect to claim 25, Janse et al teaches, A computer-implemented method of using a geographic database to identify geographic features located within a search area, wherein the geographic database contains data entities that represent geographic

features located in a geographic region, and wherein the geographic database is organized into parcels, each of which contains a subset of all the data entities in the geographic database, and wherein the subset of data entities in each parcel represent the geographic features encompassed within a separate respective one of a plurality of rectangular areas into which the geographic region is divided, wherein the method comprises the steps of:

(a) identifying each parcel that is associated with a rectangular area that intersects the search area (col. 4, lines 59-67);

Janse failed to teach, wherein an improvement comprises: (b) for each parcel identified in step (a), using a first index associated with the parcel to identify each rectangular sub-area formed of the rectangular area associated with the parcel that intersects the search area. White, Jr. teaches, b) for each parcel identified in step (a), using a first index associated with the parcel to identify each rectangular sub-area formed of the rectangular area associated with the parcel that intersects the search area (col. 13, line 54-col. 14, line 64). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have for each parcel identified in step (a), using a first index associated with the parcel to identify each rectangular sub-area formed of the rectangular area associated with the parcel that intersects the search area and to incorporate in Janse because such an incorporation would allow Janse to have useful pointers as a means to retrieve detailed data or other associated data such as street names.

Janse and White, Jr. failed to teach, (c) for each parcel identified in step (a), using a second index associated with the parcel to identify each of the data entities contained therein that represents a geographic feature that intersects each of the sub-areas identified in step (b). Bellesfield teaches, c) for each parcel identified in step (a), using a second index associated with the parcel to identify each of the data entities contained therein that represents a geographic feature that intersects each of the sub-areas identified in step (b) (col. 7, lines 13-40). Janse failed to teach, such that in the case that the search area intersects more than one of said plurality of rectangular sub-areas and a geographic feature represented by a single data entity intersects each of said more than one of said plurality of rectangular sub-areas, the second index identifies said single data entity. White, Jr. teaches, such that in the case that the search area intersects more than one of said plurality of rectangular sub-areas and a geographic feature represented by a single data entity intersects each of said more than one of said plurality of rectangular sub-areas, the second index identifies said single data entity (col. 6, lines 55-62, col. 7, lines 44-52, col. 8, lines 19-60, col. 16, lines 12-27, Figure 3, and Figure 4A-1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have for each parcel identified in step (a), to use a second index associated with the parcel to identify each of the data entities contained therein that represents a geographic feature that intersects each of the sub-areas identified in step (b); and such that in the case that the search area intersects more than one of said plurality of rectangular sub-areas and a geographic feature represented by a single data entity intersects each of said more than one of said plurality of rectangular

sub-areas, the second index identifies said single data entity and to incorporate in Janse because such an incorporation would allow Janse to have a routing component that searches for the departure point in the “place name” of the routing places data.

6. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over (US 5,754,846) Janse et al, hereafter Janse and (US 5,694,534) White, Jr. et al, hereafter White, Jr. in view of (US 6,282,498) Bellesfield et al, hereafter Bellesfield and further in view of (US 5,968,109) Israni et al, hereafter Israni.

With respect to claim 13, Janse, White, Jr. and Bellesfield failed to teach, wherein said data entities represent segments of roads. Israni teaches, wherein said data entities represent segments of roads (col. 6, lines 36-63). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the data entities represent segments of roads and to incorporate in Janse because such an incorporation would allow Janse to have segments that represent a section of navigable road.

With respect to claim 14, Janse, White, Jr. and Bellesfield failed to teach wherein the first index is a kd-tree index. Israni teaches, wherein the first index is a kd-tree index (col. 2, lines 59-65). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the first index as a kd-tree index and to incorporate in Janse because such an incorporation would allow Janse to reduce the amount of data needed to represent spatial parcel boundaries in a global kd-tree index.

With respect to claim 15, Janse and White, Jr. failed to teach wherein the second index is a bitmap. Bellesfield teaches wherein the second index is a bitmap (col. 3, line 52-col. 4, line 25). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the second index to be a bitmap and to incorporate it in Janse because such an incorporation would allow Janse to have bit-mapped images for both high and low level geographic regions.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 20 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over (US 5,968,109) Israni et al, hereafter Israni (US 5,694,534) White, Jr. et al, hereafter White, Jr.

With respect to claim 20, Israni teaches, wherein the data records associated with each sub-area are approximately similar in number to each other (col. 12, lines 49-67).

With respect to claim 29, Israni teaches, a plurality of parcels, each of which contains a separate portion of the data records, ... (col. 21, line 45 –col. 22, line 18 and col. 24, line 23 –col. 25, line 61), wherein an improvement comprises: a plurality of first indexes each of which is associated with a plurality of parcels, ... (col. 19, line 23-col.

20, line 64); whereby the computer readable data structure means identifies which of the data records represent segments of roads located in any specified sub-area of any specified area (col. 28, lines 43 –col. 29, line 11). Israni failed to teach, wherein in the case where a geographic feature represented by a single data entity intersects more than one of said plurality of rectangular sub-areas, the second index identifies said single data entity. White, Jr. teaches, wherein in the case where a geographic feature represented by a single data entity intersects more than one of said plurality of rectangular sub-areas, the second index identifies said single data entity (col. 6, lines 55-62, col. 7, lines 44-52, col. 8, lines 19-60, col. 16, lines 12-27, Figure 3, and Figure 4A-1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have for each parcel identified in step (a), to use a second index associated with the parcel to identify each of the data entities contained therein that represents a geographic feature that intersects each of the sub-areas identified in step (b); and such that in the case that the search area intersects more than one of said plurality of rectangular sub-areas and a geographic feature represented by a single data entity intersects each of said more than one of said plurality of rectangular sub-areas, the second index identifies said single data entity and to incorporate in Israni because such an incorporation would allow Israni to have a routing component that searches for the departure point in the “place name” of the routing places data.

***Response to Arguments***

9. Applicants' arguments filed 03/13/06 have been fully considered but they are not persuasive.

Issue no. 1: Applicants' argue: Applicants' claim 29 describes a database structure that is different from the database structure disclosed in Israni because the database recited in Applicants' independent claim 29, the geographic area associated with a parcel is divided into a plurality of sub-areas, similar to the "cells" disclosed by Israni and unlike the database in Israni, the data entities contained within each parcel in the database described by Applicants' claim 29 can represent features that are not limited to being located within only one sub-area. The database of Applicants' claim 29, a data entity may represent a geographic feature located in several sub-areas associated with a parcel has been considered but is not persuasive. Response: It is unclear to the Examiner where "the data entities contained within each parcel in the database can represent features that are not limited to being located in several sub-areas associated with a parcel " is not found in the claim limitations of claim 29. Is the internal spatial index structure where the two indexes are associated with each parcel? Applicants' are respectfully requested to point out and to clarify in the claim language this element.

Issue no. 2: Applicants' argue: Specifically, Applicants' independent claim 24 recites "in the case that the search area intersects more than one of said plurality of rectangular sub-areas and a geographic feature represented by a single data entity intersects each of said more than one of said plurality of rectangular sub-areas, the second index identifies said single data entity" and Bellesfield and Janse, even if combined do not disclose the features recited in Applicants' independent claim 24 have been considered but are not persuasive. Response: Applicants' claim limitation recites

“such that in the case that the search area intersects more than one of said plurality of rectangular sub-areas and a geographic feature represented by a single data entity intersects each of said more than one of said plurality of rectangular sub-areas, the second index identifies said single data entity.” Applicants’ are arguing their amendment to claim 24. Therefore, this argument is considered moot. However, it is suggested to remove the “such that” and begin the claim limitation with “in case said search area intersects …”.

Issue no. 3: Applicants’ argue: Applicants’ independent claim 25 was rejected as obvious over the combination of Janse, White, Jr. and Bellesfield and even if combined, do not disclose the computer-implemented method recited in claim 25 has been considered but is not persuasive. Response: Applicants’ claim 25 does not recite “in the case that the search area intersects more than one of said plurality of rectangular sub-areas and a geographic feature represented by a single data entity intersects each of said more than one of said plurality of rectangular sub-areas, the second index identifies said single data entity.” The claim limitation recites “such that in the case that the search area intersects more than one of said plurality of rectangular sub-areas and a geographic feature represented by a single data entity intersects each of said more than one of said plurality of rectangular sub-areas, the second index identifies said single data entity.” Applicants’ are arguing the amendment to claim 25. Therefore, this argument is considered moot. It is suggested to remove the “such that” and begin the claim limitation with “in case said search area intersects …”.

Issue no. 4: Applicants' argue: Applicants' dependent claims 13-15 include additional limitations that are neither disclosed nor suggested by Janse, White, Jr., Bellesfield and Israni, taken alone or in proper consideration has been considered but is not persuasive. Response: It is interpreted that Israni teaches the claim limitations of claims 13-15.

Conclusion: Applicants' need to incorporate the allowable subject matter here below into the independent claims in order to make the remaining independent claims allowable.

In this rejection of claim 24 and others, for example under Section 103 (a) of Title 35 of the United States Code, the Examiner carefully drew up a correspondence between the Applicants' claimed limitations and one or more referenced passages in the Bellesfield et al, Janse et al, White, Jr. et al, and Israni et al references, what is well known in the art, and what is known to one having ordinary skill in the art (the skilled artisan). The Examiner is entitled to give claim limitations their broadest reasonable interpretation in light of the Specification (see below):

2111        **Claim Interpretation; Broadest Reasonable Interpretation [R-1]**

>CLAIMS MUST BE GIVEN THEIR BROADEST REASONABLE INTERPRETATION

During patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification." Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 162 USPQ 541,550-51 (CCPA 1969).<

***Allowable Subject Matter***

10.        Independent claims 23 and 26 are allowed.

The following is an examiner's statement of reasons for allowance: Applicants' wherein the subset of the plurality of data entities contained in each parcel represents the geographic features located in a separate one of a plurality of areas into which the geographic region is divided in claim 23 and "wherein the plurality of groupings are based upon a division of the area associated with the parcel into a plurality of smaller sub-areas in conjunction in claim 26 with the other claim limitations was not disclosed by, would not have been obvious over, nor fairly suggested by the prior art of record.

11. The dependent claims 2-10, 17, 19, and 28 being further limiting to the independent claims, definite and fully enabled by the Specification are also allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

12. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

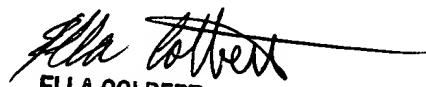
### **Inquiries**

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ella Colbert whose telephone number is 571-272-6741. The examiner can normally be reached on Tuesday-Thursday, 6:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on 571-272-6747. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 25, 2006



ELLA COLBERT  
PRIMARY EXAMINER